NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

WILDLIFE UPLAND HABITAT MANAGEMENT

(Acre)

CODE 645

DEFINITION

Creating, maintaining, or enhancing lands other than wetland, for food and cover for wildlife.

PURPOSE

To maintain or establish sustained populations of desired kinds of wildlife.

WHERE THE PRACTICE APPLIES

On all lands, other than wetland, that are suitable for the kinds of wildlife food or cover plants that are needed.

PLANNING CONSIDERATIONS

All land provides wildlife habitat. Quality is the variable, ranging from very poor to excellent for a given animal. Cropland, pastureland, woodland, rangeland, and residential land all produce and support wildlife to the extent of providing some or all of the basic habitat elements required by an animal or group of animals. Any land use may support 'acceptable levels of wildlife, where wildlife may be either a primary or secondary use, if this specification is met.

Home Ranges Each individual animal has a home range. Within this range must be found all the requirements for its livelihood. Food plants must be present and within physical reach. Various types of cover plants must be present and in sufficient quantity, quality and arrangement so as to be usable as needed. Ranges (how far an animal will travel) depend upon the quality of the various habitat elements. This with other considerations will determine the minimum size of the management unit for a given wildlife species. Although wildlife species may have larger or smaller home ranges than specified, no home range size is an acceptable NRCS standard if habitat elements are provided in areas larger than designated in these specifications.

Vegetative Habitat Elements Within the home range of each animal some condition limits population growth. Remove that condition and the numbers will increase to the point where another condition sets the limit. We can influence the elements of habitat which impose limits through food supply, protection, water and reproduction. The basic elements of wildlife habitat to be managed or protected are defined as follows:

Grain and Seed Crops - These crops include, but are not limited to, seed-producing annuals such as corn, rye, wheat, barley, oats, millet, soybeans, grain sorghum, and other plans commonly grown commercially for grain or seed. Waste grain from these crops is essential to many species of wildlife for a fall and/or winter food supply. This element can be best provided by managing crop residue with wildlife needs in mind. Crop Residue Management, and Conservation Tillage are conservation practices used on cropland which will help provide this element.

Domestic Grasses and Legumes - Making up this group are grasses and legumes which will furnish wildlife cover and/or food. Hayland, pastureland, seeded woods roads, log landings, field borders, grassed waterways, orchards and roadsides established or maintained with wildlife considerations will provide this habitat element. Also, special plantings for wildlife can be made with these plants. Among the plants are domestic warm and cool season grasses suchas weeping lovegrass, old world bluestems, fescue

or smooth brome, legumes such as white, yellow hop, rid, arrowleaf and crimson clovers, crownvetch, alfalfa or sweet clover.

Woody Plants - This element includes trees, shrubs, and woody vines. They are normally found in forests, in farm woodlots, hedgerows, fence lines, odd areas, etc. They generally establish naturally, but may be planted. Among the native kinds are oak, black cherry, cottonwood, maple, ash, box elder, chittamwood, pine, Eastern red cedar, hawthorn, dogwood, sumac, blueberry, viburnums, grape, blackberry, and Virginia creeper. Diverse age and composition are essential to provide good wildlife habitat.

Also in this group are several varieties of fruiting and ornamental shrubs that are, raised commercially for planting. Autumn olive, plum, Amur honeysuckle, crabapple, multiflora rose, bicolor lespedeza, and skunkbush sumac are some of the shrubs that generally are available and have high wildlife food and cover values.

Wild Herbaceous Plants - In this group are native or introduced - herbaceous plants that generally are established naturally. Some examples are forbs such as spurges, annual lespedeza, partridge pea, ragweed, sunflower, and others. These are commonly found in fallow areas, burned areas, utility lines, fence lines and odd areas. Other examples are native warm or cool season grasses such as wild ryes, bromes, switchgrass, indiangrass, little bluestem, big bluestem, broomsedge, blue grama, etc., which are commonly associated with rangeland.

Wild herbaceous upland plants are maintained or established through soil disturbance, controlled burning, and grazing control, although they may be planted.

SPECIFICATIONS

Bobwhite Quail

Habitat Element

Home range: amount of habitat elements per 40 acres
Minimum amount of habitat
Food: Grain and seed crops or wild herbaceous plants--1/4 acre
Nesting and roosting cover: Domestic or native warm season grasses--1/4 acre
Protective cover: Woody plants--1/8 acre

NRCS, OK
May 1985

Management Condition of Habitat Elements

Food

Grain and seed crops - Must include seed producing crops such as corn, wheat; soybeans, millet, grain sorghum, peas, or beans. If crop species are used to provide the food requirements of bobwhite quail, the crop must meet NRCS Specification for Conservation Tillage which requires at least 1500 pounds of air dry residue on the soil's surface at the time of seeding. Crop species may also meet the food requirement of bobwhite quail if at least 1/4 acre is left unharvested.

Wild herbaceous plants - If wild herbaceous plants are used to provide the food component for bobwhite quail, at least 1/4 acre of such plants must be established or maintained annually. Quail food plantings of partridge pea, annual lespedeza, or sesbania, or other adapted species may be used. Prescribed burning or disking may be used either to establish or maintain 1/4 acre of forbs such as crotons, spurges, ragweed, sunflowers or other plants with a demonstrated quail food value.

Nesting and roosting cover

Wild herbaceous plants - In Oklahoma suitable roosting and nesting cover may be provided by planting or maintaining at least 1/4 acre of native warm season grasses such as broomsedge, bluestem, switchgrass, indiangrass, sideoats grama, or other adapted species. At least 1/4 acre of these grass species must be present within the home range and must be properly grazed where more than half the annual growth is left.

Domestic tall warm season grasses - Nesting or roosting cover can be managed by planting or properly maintaining domestic tall warm season grasses such as weeping lovegrass or old world bluestems. Establishing these grasses should be in accordance with the NRCS Standard and Specifications for Pasture and Hayland Planting (512).

Domestic grasses must be maintained at a height of at least six inches during the quail nesting season between April 1 and July 31.

When nest building starts in late April and May, new grass alone, whether native or domestic, is

not suitable for nesting. Quail nest in grass remaining from the previous growing season. Areas burned or closely grazed the previous fall and winter cannot be used. Tall grasses must compose 15 percent or more of area used for nesting.

Protective cover

Woody plants - It is essential that protective cover be composed of low growing small trees, vines or shrubs which form a dense closed canopy. It is necessary to establish or maintain at least 1/8 acre of this habitat per 40 acres. The area established must be at least 20 feet wide.

Shrubs such as wild plum, privet, rose, blackberry, sumac, shinnery oak and other low growing shrubs or vines may be maintained for this purpose. Often small deciduous or coniferous trees will provide this type of habitat.

Trees may be used as protective cover only when a 100 percent canopy is provided less than three feet above the ground. Protective cover plantings can be made with Russian olive, autumn olive, redcedar, Austrian pine, or other adapted small trees. Half-cut trees such as mesquite, osage orange, or mulberry or brush piles may be used if the described size and canopy conditions are met. Windbreaks may be used as protective cover if a portion of the windbreak, at least 1/8 acre in size, provides a 100 percent canopy closure at less than three feet and the protective cover area is at least 20 feet wide. Planting a row of an adapted shrubs in a tree windbreak may provide this type of habitat.

Ring-neck Pheasant

Habitat Elements -

Home range: elements per 80 acres
Minimum amount of habitat
Food: Grain and seed crops or wild herbaceous plants 0 acres
Cover: Domestic grasses, legumes and wild herbaceous plants or woody plants 1 acre

Management Condition of Habitat Elements
Food -

Grain and seed crops - If crop species are used to provide the food requirement of ring-necked pheasant, the crop must meet the NRCS Specification for Conservation Tillage which requires that at least 1500 pounds of air dry residue on the soil's surface at the time of seeding. Fallow or other land will meet this specification if food producing wild herbaceous plants such as bristlegrass, crabgrass, or other demonstrated pheasant food plants have become established. These lands must also meet the SCS Specification for Conservation Tillage. At least 40 acres out of every 80 managed for pheasants must meet the food specification

Cover

Grain and seed crops - Crops or crop residue will meet this requirement if at least 1500 pounds/acre of small grain residue is left standing in an upright position at least six inches tall.

Domestic grasses and legumes - Domestic grasses and legumes may be used to provide this element if those plants attain a height of at least six inches during pheasant nesting between April 1 and July 31 and are managed through proper grazing, mowing or deferrment to maintain that height.

Wild herbaceous plants - Roadsides, fence rows, drainage ditches, waterways and odd areas which have become established in tall wild herbaceous plants such as Russian thistle, sunflower, sumpweed, giant ragweed, lambsquarter, Johnsongrass, or others may be used to meet this specification. Tall warm season grasses such as bluestems and switchgrass may be established or maintained through proper grazing use or mowing to leave at least six inches during pheasant nesting. At least one acre out of every 80 acres must provide cover. Cover occurring in fence rows, ditch or streamsides, roadways or other belts must be at least 20 feet wide.

Woody plants - Low growing trees or shrubs which form a dense closed canopy at less than three feet from the surface will meet this specification. Planting a row of an adapted low growing shrub in a tree windbreak may provide this type of habitat if the canopy formed is at least 20 feet wide. Tree windbreaks will fill this requirement if the canopy is closed at less than 'three feet in height or if left undisturbed so that grasses, weeds, or dead-blown plants are growing or accumulated in the windbreak to provide dense cover at less than three feet in height.

White-tailed deer

Habitat Elements

Minimum amount of habitat elements per 160 acres
Home range: 160 acres
Food: Domestic grasses and legumes--One plot 2-10 acres/160 acres or
Deciduous trees, vines andshrubs--12 acres/160 acres
Cover: Woody plants--12 acres/160 acres
Water: One permanent water body/160 acres

Management and Condition of Habitat Elements

Food

Domestic grasses and legumes - Plantings of cool season grasses and legumes may be established to provide deer food. Plots should be at least two acres in size and larger if more than a few deer or turkey also use the plot. Alfalfa, vetch, clovers (red, crimson, arrowleaf, and white), fescue, and tall wheatgrass may be used for this purpose. Planting should be accomplished according to Specifications for Pasture Planting. Use of plots by livestock should be controlled by fencing or other means of exclusion. If these plantings are the sole source of deer food, at least one 2-10 acre plot is necessary every 160 acres. Annual mowing or other renovation may be necessary to maintain palatability for perennial species such as certain clovers and fescue.

Grain or seed crops - Cool season grain or seed crops (wheat, oats, rye or ryegrass) may be used in deer food plots. Size and fencing requirements are the same as for domestic grasses and legumes. Annual planting is necessary if grain or seed crops are used for this purpose. Planting should be accomplished according to Technical Note - Biology-OK-23 Establishing Wildlife Food and Cover Plants.

Wild herbaceous plants - A number of forest management practices can stimulate the growth of deer foods. Deer woods should be managed to produce a heavy understory of browse plants such as panicums, wildrye, uniolas, vetches, tickclover, wingstem, sunflowers, or other preferred deer foods. Woodland management practices which open the stand will create preferred deer foods: The practices, Woodland Improved Harvesting and Woodland Improvement will meet the food requirement if the D+20 rule is met (stem spacing in feet will be the value obtained by adding the average diameter of the stand in inches plus 20). Woodland cannot meet the food specification for white tailed deer if it is grazed. If managed woodland is to be used for deer food requirements, at least 12 out of every 160 acres must be managed to produce and maintain a heavy growth of understory vegetation.

Woody plants - The same management practices which open the stand and stimulate the growth of grasses and forbs also increase the new growth of woody plants, many of which are preferred deer foods. These plants can also be established by maintaining the D+20 spacing.

Cover

Woody plants - At least 12 acres out of every 160 acres must either be classified as woodland or brush. In both woodland and brush, grazing should be controlled to provide adequate hiding areas. If a visible browse line is apparent, the brush or woods will not meet the cover specification.

Brush or timber management can be used to eliminate trees or brush in blocks, strips, or other patterns leaving the woody species for cover. Both brush and woodland areas used for cover should never be less than 50 feet wide and should be at least the width that it would take to conceal a person who has walked into the cover stand from someone standing at the edge of the cover. This test should be performed during winter conditions.

Water - One permanent water body/160 acres. Deer frequently use ponds, streams and other water bodies for drinking water. In areas where drought frequently dries local water bodies, ponds or wildlife watering facilities should be installed at a rate of one to every 160 acres for deer management.

Eastern Wild Turkey

Habitat Elements

Home range: 640 acres
Minimum amount of habitat elements /640 acres
Food: Domestic grasses and legumes
Four acres/640 acres
or
Deciduous trees and shrubs 80 acres/640 acres
Cover: Trees and Shrubs 160 acres/640 acres
Water: One permanent water body/640 acres

Management and Condition of Habitat Elements

Food

Domestic grasses and legumes - Plantings of domestic grass or legumes may be established to provide turkey food and forage. Plots should be at least 2 acres in size and larger if many turkey or deer occupy the same range. Clovers, vetches, alfalfa or cool season pasture grasses may be used for this purpose. Planting should be accomplished according to the SCS Specifications for Pasture Planting. Some grazing after nesting may be beneficial to turkey; however, the use of such practices should be light and must be controlled. Fencing the food plots is necessary if cattle range the surrounding area. If these plantings are the sole source of turkey foods, at least four acres must be established or maintained for 640 acres of turkey habitat. Annual mowing or other means of renovation may be necessary to maintain palatability.

Grain and seed crops - Annual grain or seed crops such as wheat, rye, ryegrass, grain sorghum, millets or other turkey foods may be planted annually. Size and fencing requirements are the same as for domestic grasses and legumes.

Trees and shrubs - Within woodland, controlled burning, tree thinning, brush management, and selective cutting can produce or improve turkey foods. Acorns, beechnuts, flowering dogwood berries, huckleberries, mulberries, greens, tubers and roots of violets, spring beauty, and other woodland forbs are favored turkey foods. Forests managed to stimulate these plants through creating openings or selective thinning will meet this specification. If forests are managed to provide turkey food, at least 80 acres out of every 640 must be in deciduous trees and shrubs and maintained or managed to produce turkey foods.

Cover

Woody plants - At least 160 acres of every 640 acres must. be in woodland. Woodlands should be managed to maintain a relatively dense canopy and open understory to permit turkey movement. At least some mature timber should be maintained for roosting areas. Woodland tracts must be at least 300 feet wide.

Water

Turkeys drink water daily. Although the daily range of turkey may be more than 640 acres, any permanent source of water within 640 acres will meet this specification. Ponds or wildlife watering facilities may be installed to meet this requirement.

Fox and Gray Squirrel

Habitat Elements

Home range: 1 acre of woods
Minimum amount of habitat elements:
Food: Mast producing trees 0.5 acres/acre
Cover: Den trees 5/acre or nest boxes 1/acre

Management and Condition of Habitat Elements

Food

Woody plants - In Oklahoma squirrel food habits vary according to food availability. Squirrels in Eastern sections use beech, cherry, osageorange, hickory, flowering dogwood, pecan, pine, oaks, huckleberry and other fruit and nut bearing trees characteristic of the Eastern deciduous forest. In the West, buds of cottonwood, elm, and ash and the mast of walnut, oaks, hackberry, mulberry, and other species of trees usually associated with riparian zones form the squirrels diet.

To provide squirrel food in both eastern and western Oklahoma, at least one acre of woods must be established or maintained. At least half of the timber stand must be composed of mast producing species. The trees must be of appropriate size or age to bear mast.

Cover

Woody plants or nesting boxes - Squirrel seek both protective shelter and nest in large trees that contain natural cavities or in next boxes designed for squirrel. At least three den trees or squirrel nesting boxes per acre must be maintained.

Cottontail Rabbit

Habitat Elements

Home range: One acre
Minimum amount of habitat elements
Food: Grasses, legumes, or seed and and grain crops - 0.2 acres/acre
Cover: Thickets or brush piles 1/acre

Management and Condition of Habitat Elements

Food

Grasses and legumes - Clover, alfalfa, vetches or cool season pasture grasses may be maintained or established to provide rabbit food. Shallow disking, prescribed burning, mowing or planting may be used to stimulate the growth of native grasses, forbs and legumes to meet the rabbit food requirement. Prescribed burning and planting should be accomplished according to NRCS Specifications for Prescribed Burning and Pasture Planting - Mowing and disking may be necessary to maintain palatability. At least 0.2 acres/acre must be managed in this condition.

Grain and seed crops - Annual grain and seed crops may be planted for rabbit forage. Size requirements are the same as for domestic grasses or legumes.

Cover

Woody plants and brush piles - Native species such as blackberry, plum, rose, buckbrush, dewberry, and others form dense low cover that is necessary for rabbits. Where thickets are not present, rabbit cover can be established through the use of brush piles. Each thicket or brush pile should be at least 12 feet in diameter and should be maintained or established at a rate of one for every acre.

Brush piles should be made by loosely piling trees or brush in suitable areas which will allow native vegetation to come through and replace the brush once it has deteriorated. Where mowing, disking, burning or other practices are used to establish rabbit foods, a ring or firebreak should be made at least 15 feet away from the margin of thickets or brush piles to preserve protective cover and leave a buffer of grass or other vegetation between the food area and the protective cover.

Establishment of Wildlife Food and Cover Plants

Planting rates, spacings and dates for planting the various wildlife food and cover plants referred to in this specification are contained in Biology Technical Note - Biology-OK-24 - Establishing Wildlife Food and Cover Plants.

SUPPLEMENT 10/88

PLANNING CONSIDERATIONS FOR WATER QUANTITY AND QUALITY

Quantity

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.
2. Effects on the volume of downstream flow or aquifers that might cause undesirable environmental, social or economic effects.
3. Potential for a change in plant growth and transpiration because of changes in the volume of soil water.

Quality

1. Effects on erosion and the movement of sediment and soluble and sediment-attached substances that would be carried by runoff.
2. Effects on the movement of dissolved substances below the root zone and to ground water.
3. Effects on wetlands or water related wildlife habitats.
4. Effects of pesticide and nutrient use on surface and ground water quality.

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE SPECIFICATION

ADDENDUM

FOR CONSERVATION RESERVE PROGRAM

WILDLIFE UPLAND HABITAT MANAGEMENT

(Acre)

Code 645

PURPOSE

The Conservation Reserve Program can improve wildlife habitat by providing important food and cover on land converted to permanent vegetation. Under this program some wildlife management practices commonly used to meet wildlife habitat requirements are either restricted or require modified use. This addendum describes acceptable procedures for providing food and cover requirements on Conservation Reserve Program lands where the development of wildlife habitat is planned.

SPECIFICATIONS

The establishment of native grasses for the Permanent Wildlife Habitat Practice (CP-4) should be made in accordance with the Standard and Specifications for Range Seeding. The establishment of introduced grasses for CP-4 should be made in accordance with the Standard and Specifications for Pasture and Hayland Planting.

Grass plantings (both native and introduced) can include up to two pounds per acre of adapted forbs, legumes, and other food producing plants. Plantings can include perennial and/or annual species, but annual plants will only provide food for the first few years and will need to be supplemented by perennial plants or annual wildlife food plots in order to meet long-term food requirements.

Where forbs, legumes, and other food producing plants are used in grass seeding mixtures to meet wildlife food requirements, these plants should be included on enough of the seeded acres to meet the food requirements of different species as shown in the Standard and Specifications for Wildlife Upland Habitat Management.

Annual wildlife food plots are now allowable under CRP. The new practice (CP-12) provides for annual cultivation and planting of grain and seed producing annuals, and/or forage producing annuals. Provisions for establishing and maintaining annual food plots are described below.

1. Up to 1 acre per 10 acres of CRP land (rounded to the nearest 10 acres) may be established in annual food plots not to exceed 10 acres per 160 acres of CRP land. Furthermore, no more than 20 acres per ASCS farm number may be established in annual food plots. The minimum size of food plots needed to meet food requirements of commonly managed wildlife species is described in the Standard and Specifications for Wildlife Upland Habitat Management.
2. Annual Food Plots will be established in locations that will minimize soil losses from wind and water erosion.
3. Establishment of food plots should be made in accordance with procedures shown in Technical Note Biology OK-24, Establishing Wildlife Food and Cover Plants.
4. Food plots will be established annually and on a continuous basis. Where annual plantings are discontinued or food plots are abandoned, the plot will be established with perennial vegetation that is compatible with vegetation on the remainder of the CRP field.

Woody plants should be established as needed on Conservation Reserve Program lands to meet the wildlife specie's food and cover requirements. The minimum requirements for woody plants within an animal's home. Range should be provided for in accordance with the Standard and Specifications for Wildlife Upland Habitat Management.

NRCS, OK
July 1987

The use of prescribed burning is a recommended wildlife management practice on Conservation Reserve Program lands. When the residue of native grasses and in some cases introduced grasses is determined to be at least 2500 pounds per acre on 50 percent or more of the field at the beginning of the growing season, a prescribed burn should be made in accordance with the Standard and Specifications for Prescribed Burning. Protect grasses and woody plants used for nesting, roosting and protective cover.